

ENGINEERS AUSTRALIA  
ENGINEERING HERITAGE VICTORIA

## ENGINEERING HERITAGE NOMINATION

# NHILL AERADIO AND AIRPORT

*“Victoria’s First Regional Airport”*



Nhill RAAF Air Base 1943 with five hangars on tarmac. Image: Nhill Aviation Heritage Centre.

August 2019

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## 1.0 INTRODUCTION

This bulk of the facility was built for the purpose of developing a major air crew training base for the RAAF under Wartime conditions.

The historic Aeradio Control Building at Nhill, on the Adelaide-Melbourne air route in western Victoria, housed one of the original twelve standardised Aeradio stations constructed by Amalgamated Wireless Australasia (AWA) in 1938-39 for the Department of Civil Aviation (DCA).

Today, the Nhill Aeradio Control Building is the best-preserved example of these surviving buildings, the others being at Cambridge in Tasmania, Kempsey in NSW and Wagga Wagga in NSW.

However, a complete Aeradio installation comprised a number of other structures and buildings as shown in the following photograph. Nhill is the only site to retain these buildings, or their footings/foundations.

Since then the Nhill Aviation Heritage Centre has taken an interest in the building, and has restored it with the intention of using it as a museum<sup>1</sup>.

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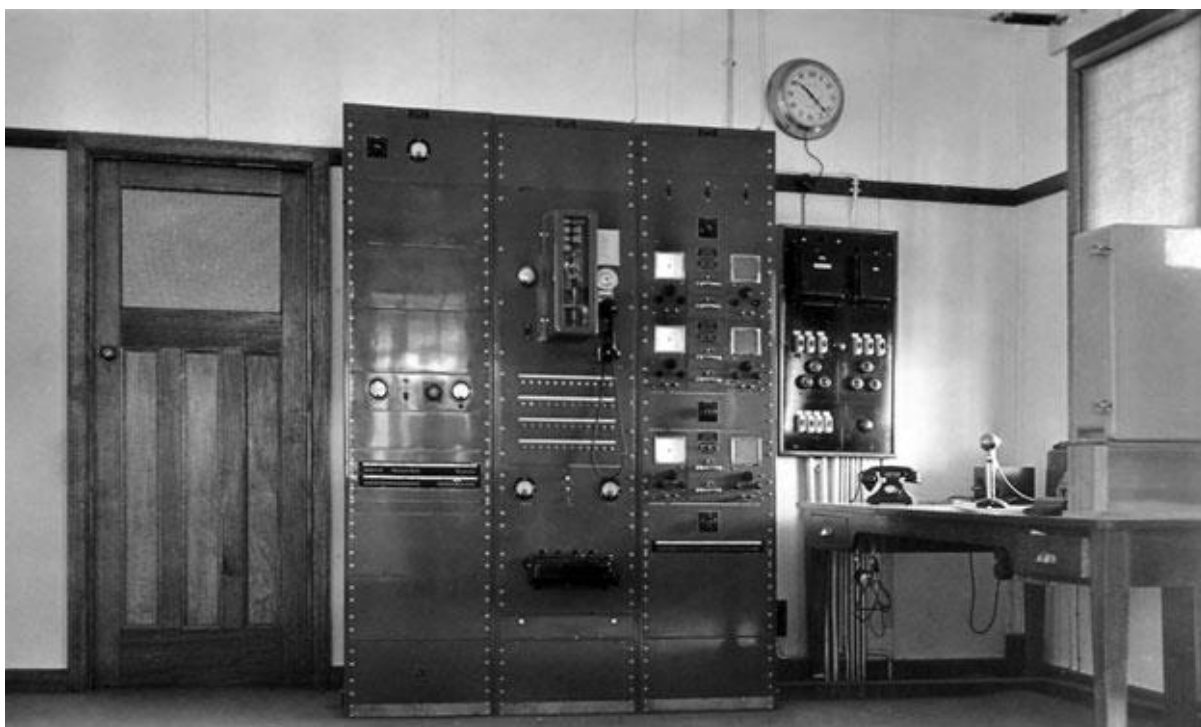
<sup>1</sup> An inspection by the author on 21 July 2012<sup>9</sup> showed that the building had very recently been painted and the restoration appeared to be well progressed.



**Nhill Aeradio Station in 1938**The structures in the foreground are, from left to right:

- The mast for the aerodrome's neon light beacon
  - The station Power House, housing an emergency generator
  - The Aeradio Control Building and office
  - The 33 MHz 'Lorenz' Radio Range antenna mast and radio equipment building.
- Behind the Control building are two masts supporting the station's HF receiving aerials. To the left of the picture are the concrete foundations for the diesel fuel storage tanks. The station's HF transmitter station and foundations of the rotating light beacon are about 2 km north of the site.

**Image: Civil Aviation Historical Society**



The photo above shows the interior of the brand-new Nhill Aeradio office. The equipment is completely standard, except that the Bellini-Tosi MF Direction Finder receiver is yet to be installed.

The photos were taken by Department of Civil Aviation Radio Inspector Ivan Hodder who was responsible for overseeing the installation of many of the original Aeradio Stations. As of 2009, the former Aeradio Station (later known as Flight Services) at Nhill is the only known surviving example of these historic installations.

Image: Ivan Hodder, DCA.

## 2.0 Heritage Nomination Letter

Learned Society Advisor  
Engineering Heritage Australia  
Engineers Australia  
Engineering House  
11 National Circuit  
BARTON ACT 2600

### **Name of work: Nhill Aeradio and Nhill Airport**

The above-mentioned work is nominated to be awarded an Engineering Heritage Marker.

The airport is located at: The co-ordinates are: 30° 18.523' S 141° 38.839' E at the Airport Operations Building. The airport is approximately 2 km from Nhill town centre.

Owner: Shire of Hindmarsh

Nature of Service: Public Airport

The owner will be advised of this nomination once it has been approved by EHA and a letter of agreement from the owner to recognise the site will be sought.

Access to site: The airport is open to the public with the usual Air-Side restrictions observe4d at airports.

The Nominating Body for this nomination is Engineering Heritage Victoria

**David LeLievre**  
**Chair**  
**Engineering Heritage Victoria**

Date: August 2019

### 3.0 BACKGROUND <sup>2</sup>

Nhill Airport (ICAO Airport Code: **YNHL**) is located 1 nautical mile (1.9 km; 1.2 mile) northwest of Nhill township centre, Victoria, Australia about four hours northwest of Melbourne by road. The Nhill Aviation Heritage Centre is located at the airport.

The airport has a two runways:

- The main runway is a sealed bitumen strip of 1000 m length with a heading of 09/27.
- The second runway is a grass strip of 1102 m length with a heading of 18/36.

The elevation is 138 m.

The Royal Australian Air Force (RAAF) commandeered and expanded the airfield during World War II.

RAAF No.1 Operational Training Unit (1OTU) provided advanced operational flying and instruction. Formed on 22 December 1941, the unit was temporarily housed at Nhill until RAAF East Sale at Sale, Victoria became available. Due to operational requirements the RAAF relocated 1OTU to RAAF Bairnsdale at Bairnsdale, Victoria in June 1942.

No. 2 Air Navigation School relocated to Nhill from RAAF Mount Gambier at Mount Gambier, South Australia in September 1941. The commanding officer was Wing Commander A G Carr (AFC). Airplanes used to train pilots in air navigation were Fairey Battles, Tiger Moths, Wirraways, Oxfords, Beauforts and Hudsons.

On 13 December 1943 the RAAF Armament School relocated from Hamilton to Nhill. The commanding officer was Wing Commander A D Garrison. Renamed as the *Air Armament School* on 15 January 1944 and later to the *Air Armament and Gas School*.

A United States Army Air Force (USAAF) advance flying unit camp was proposed in early 1942. Although buildings were constructed, the camp was never used.

Post War the airport returned to civilian purpose use. In 2008 the process began to create the Nhill Aviation Heritage Centre. By 2019 it has restored Avro Anson and CAC Wirraway aircraft in its collection both located in a large hangar.

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<sup>2</sup> Wikipedia, Nhill Airport, last updated 4 June 2019.





**Hangar and other buildings at Nhill Airport. Image: Owen Peake.**



**Nhill Airfield with runway beyond above ground fittings. Image: Owen Peake.**





**Aeradio Building at Nhill Airport. This building is located on the western side of the airport.  
Image: Owen Peake.**



**The main building complex at Nhill Airport taken from the Aeradio Building. The runways are between the two groups of buildings. Image: Owen Peake.**

**[Note: Refer to Appendix 1 for more images.](#)**

## 4.0 HERITAGE ASSESSMENT

### 4.1 Basic Data

Other/Former Names: Nhill Air Base (during RAAF operations during WWII).

Location: 2 km north of the centre of Nhill township.

Map co-ordinates: 30° 18.523' S, 141° 38.839' to the Operations Centre Building on the tarmac.

Elevation: 138 metres.

Address: Nearest Town: Nhill.

State: Victoria

Local Govt. Area: Shire of Hindmarsh.

Owner: Shire of Hindmarsh.

Current Use: Public Airport.

Former Use: Public Airport and Air Force Base during WWII.

Designer: Department of Civil Aviation/RAAF.

Maker/Builder: Department of Civil Aviation/RAAF.

Year Started: 1938.

Year Completed: 1939.

Physical Description: In 2019: Airport with two runways (one bitumen, one grass), modest terminal facilities, one hangar, Aeradio installation (across the field from the other facilities) and modest refuelling facilities. Site in good condition and is currently operational as an airport.

Physical Description:	Built for the purpose of developing a major air crew training base for the RAAF under wartime conditions.
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Physical Condition:	Working condition, although only a fraction of the original facilities remain in place.
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Modifications	The site has been much modified since its original construction.
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## 4.2 Historical Notes

See 3.0 Background above.

Refer Appendix 2 for more details on Wirraway aircraft used extensively at Nhill Air Base.

Refer Appendix 2 for more details on Avro anson aircraft used extensively at Nhill Air Base.

## 4.3 Heritage Listings

No heritage listings known.

# 5 Assessment of Significance

## 5.1 Historical Significance

Several drivers led to the development of the Nhill Airport site. Scheduled air services between Melbourne and Adelaide in the late 1930s required a mid-point refuelling stop and Nhill was well located for this purpose.

Nhill was selected in the late 1930s as one of a network of stations for a nationwide Civil Aviation radio communications network termed Aeradio (see section 5.2).

In the immediate post war years Nhill needed an air service to Melbourne to provide fast transport for locals and visitors to the town. The Western Highway was far below its present standard and most people drove old cars which made the Nhill/Melbourne journey quite arduous. [My family, which lived on a farm at Yanac, north west of Nhill, owned a 1926 Chevrolet rag-top tourer which was much slower than modern cars and suffered constant engine problems when travelling in hot weather].

Finally World War II gave Nhill a massive boost with the air Base being used as a major training facility as the RAAF built up its crews at breakneck pace to meet the urgent needs of the European and the Pacific Wars.

## 5.2 Aeradio

With the development of commercial air services (and radio) in the 1930s came the need for a supporting ground organisation. This need was reinforced by the tragic losses of the first ANA's Avro X *Southern Cloud* in 1931, Airlines of Australia's Stinson VH-UHH in 1937 and the ANA DC3 *Kyeema* in 1938. At first marine radio stations were used for communication with aircraft, but soon a dedicated air traffic

services organisation was established, one that continues to play a vital role in safe air transport today.

### **The Coming of Aeradio (by Roger Meyer, Civil Aviation Historical Society)**

“The archive of the Civil Aviation Historical Society contains the ‘Ivan Hodder Collection’ of photographs, documents, tape recordings and memoirs which reveal much about the coming of civil aviation radio communications to the remote northern parts of Australia before, during and after World War II. The following article is extracted from his journals in which he describes a resourceful, hard but rewarding working life.

Ivan Hodder (1899-1993) was a radio enthusiast by nature, having learned Morse code as a sixteen year-old, and went on to join the RAAF Wireless Reserve in 1929. His spare time was spent in building and experimenting with radio transmitters which, he later discovered, was in contravention of military intelligence regulations.

Prior to 1936 there was no wireless organisation available to civil aviation, as no suitable airborne equipment was available. However this situation was now changing and the Director of Signals at RAAF Headquarters, Squadron Leader C S Wiggins was seconded to the Civil Aviation Board (CAB) with responsibility for planning a complete system of Aeradio stations throughout Australia and New Guinea.

In 1938 Mr Wiggins offered Ivan a job as one of four Radio Inspectors, the others being Ted Betts, Fred Stevens and Ken Dalziel. This was prior to the creation of DCA and the small number of CAB staff (about 100) were located at Victoria Barracks in St Kilda Rd, Melbourne.

Some fifteen Aeradio stations were being installed by Amalgamated Wireless Australasia (Limited) - AWA - at the principal aerodromes and along the major air routes between Hobart in the south and Salamaua in New Guinea in the north. It was the duty of the Radio Inspector to see that the installations met the technical specifications before being handed over to DCA. They also assisted AWA by installing several stations on the Adelaide-Darwin route. As if that were not enough, Ivan and his colleagues also installed several 33 Mc<sup>3</sup> ‘Lorenz’ Radio Range beacons to keep aircraft ‘on the straight and narrow’. They were constantly on the move installing equipment, repairing faults and fixing aerial systems at the Aeradio stations.

The earliest need was for communications with aircraft flying across open expanses of water. As several aircraft had been lost flying across Bass Strait it was decided to install temporary Aeradio stations at Essendon and Western Junction (Launceston). The other route for which an Aeradio service was needed resulted from the agreement between the British and Australian governments to establish an Empire Air Mail Service between the two countries. The London to Singapore section was to

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<sup>3</sup> Mc is an abbreviation of “megacycle”. Since metrication in Australia we would not describe this as a “megahertz” with the abbreviation MHz.

be operated by Imperial Airways, and the Singapore to Sydney sectors by Qantas Empire Airways (QEA). Commencing operations in 1934, QEA intended to make use of the four-engined DH86 which was fitted with the new AWA-built AS-9 50 watt transmitter and the AS-3 receiver.

Because of problems with the DH86, Qantas initially used a DH61 on a mail-only service, connecting with Imperial Airways at Darwin. On 26 February 1935 the first DH86 official service left Brisbane for Singapore with Captains G U "Scotty" Allan and Bill Crowther. Initially it was still a mail-only service, but with the success of the initial flights and resolution of the airworthiness problems of the DH86 approval was granted by the CAB to carry passengers and this service was introduced on 17th April.

The CAB's urgent problem was to establish a chain of ground stations between Brisbane and Darwin to support the air mail service. Although the schedule on this segment called for twelve stops (overnight at Cloncurry), very few of these locations had any form of radio facilities. Through co-operation between the CAB, Qantas and various private and official organisations along the route, an effective service emerged.

It comprised Archerfield Aeradio (already operated by AWA for some time), Cloncurry Flying Doctor Service, Camooweal Post Office, Brunette Downs (a cattle station), Wave Hill (another Post Office station) and the Darwin Coastal Radio Station (callsign VID) which was operated by AWA. On paper it looked to be a rather motley array with no previous experience of Aeradio communications but it worked well, partly due to the fact that a fully qualified radio operator was carried on every Qantas flight.

Soon after, the CAB was again under pressure - this time from Guinea Airways - to establish a chain of Aeradio stations along the company's Adelaide-Darwin route, which it had been operating using Lockheed aircraft for several years without Aeradio backup.



AWA was not yet in a position to provide the 'standard' Aeradio station equipment so it was considered that, as an interim measure, four stations with 40 watt transmitters and battery operated receivers should be established at approximately 500-mile intervals along the route. This separation fitted in conveniently with aerodromes at Oodnadatta, Alice Springs, Daly Waters and Darwin.

The complete equipment for each station was packaged by AWA and forwarded to the various destinations by sea, road and rail around March 1939. As AWA could not spare any engineers, Mr Wiggins decided that the CAB would do the work.

Fred Stevens installed the Oodnadatta equipment, while Ivan Hodder undertook the work at Alice Springs and Darwin. Ivan was issued with a tool kit comprising two screwdrivers, a shifting spanner and a pair of pliers. As a parting gesture, he received a 'good luck' pat on the back and the dire warning that if he lost any tools, he would have to pay for them!



Below: A typical Aeradio message dated 10 March 1942. It was transmitted from Kalgoorlie Aeradio to Forrest Aeradio and reports the arrival of Australian National Airways' Douglas DC-2 VH-USY Bungana at Kalgoorlie at 4.03 pm. Note that the message is on an AWA message form although the Aeradio stations had been taken over by DCA by this time. In 1936 Bungana was the first of the modern 'all metal' American airliners imported into Australia.

 <b>AERADIO SERVICE</b> <small>Operated by Amalgamated Wireless (Australasia) Limited for and on behalf of the Civil Aviation Board, Department of Defence.</small>		
<b>AIRCRAFT OPERATIONAL MESSAGE</b>		
REF. NO. <b>C 8</b>	ADDRESS to (Aircraft) FROM <u>Kalgoorlie</u> (Sender)	Callsign _____
	RECEIVED from (Aircraft) FOR <u>Aeradio Forrest</u> (Addressee)	Callsign _____
RECEIPT Auto. Time Date Stamp	TEXT OF MESSAGE	HOW DISPOSED/DELIVERED Auto. Time Date Stamp
	<p><i>National VH-USY arrived 1603</i></p>	
<small>NOTE.—Particulars of the admissible types of "operational" messages may be obtained at the aerodrome control or aeradio offices. In any enquiry respecting this message please quote Reference No. <u>C 8</u></small>		

Ivan Hodder continues the story in his own words:

"On arrival at Alice Springs a gang of Public Works Department (PWD) labourers awaited my directions. They erected the 80-foot steel masts and anchored them to

concrete blocks, which had been installed in anticipation. The radio equipment was installed in the Guinea Airways passenger rest room. The work took three and a half weeks, and at about 4.30pm on a Saturday afternoon, the first tentative call was made on 6540 KHz by Morse key to Adelaide. To my surprise and relief, they came straight back on voice with a 'reading you five' report. Charlie Magee, a PMG Radio Inspector from Adelaide, acted as the Station's first Aeradio Operator until DCA appointed Jim Jack permanently to the position.

With Alice Springs a going concern, I packed up my tool kit - nothing missing - and headed up north by Guinea Airways' Lockheed. Passing through Daly Waters I was told that the Aeradio station was being constructed by a Post Office Engineer from Adelaide, but I had no chance to meet him as the equipment was being installed in the local Post Office some distance from the aerodrome. The Postmaster, Jim McMahon, doubled as the Aeradio Operator.

Arriving at Darwin I found that all available accommodation in town was taken by RAAF construction crews working at the 'four mile' aerodrome. The civil aerodrome manager, Alan Collins, suggested that I sleep in the radio room-to-be, and he provided a bed - with mosquito net - and arranged for me to have all my meals at the Parap Hotel.

Next day I checked out all the materials which AWA had shipped up from Sydney and found it all there with the exception of one 20-foot section of mast. I went to the PWD and asked that a search be made for it at the wharf and freight sheds, and for a working gang to be sent out to the 'drome' in a couple of days' time. A motley gang of eight labourers were delivered by truck at 8.30 each morning and recovered at 4.30 in the afternoon. By good luck, they succeeded in assembling the first mast on the ground which they painted, attached 64 foot-steps, guy wires and obstruction light cables. With fingers crossed the mast was pulled up and anchored to concrete blocks in the ground.

The second mast was then started but the missing section of pipe was causing a delay. The PWD had no success in locating it - even to checking on trucks standing at sidings along the Birdum railway line. Finally I went to the freight shed to have a look around myself. A 'wharfie' sidled up and asked if I was "still looking for that bitta pipe," and when I nodded he said "I know where it is - it's in twenty-five feet of mud and water alongside the wharf." It had slipped out of the sling during unloading.

The only replacement piece available was 18 inches out of true. That bend just had to come out. With four men holding each end we just positioned it, bend uppermost, over a slight depression in the ground and I drove the local 'ute' over it, back and forth, for about 15 minutes. After that treatment it was perfectly straight.

With this problem solved the second mast was up in much less time than the first, the communication antenna was strung between them and the direction finding (DF) loops hung from the second one. Finally the various leads were attached to the feed-through insulators on the radio room's outside wall.

The AS9 aircraft transmitter and receivers were installed, as were the 6 volt and 24 volt battery banks and the Delco charging unit. Finally the DF receiver was calibrated with the help of Max Vincent - the launch operator from the flying boat base.

Good radio communications with Alice Springs, Daly Waters, Groote Eylandt and Koepang were possible with this low-powered installation. The six-weeks stint at Darwin had been hard work and a lot of frustration, but this was offset by a successful conclusion to the exercise.

I returned to Essendon where I resumed duties with the technical maintenance unit which had been set up to handle our own problems instead of farming them out. There were four of us - Ted Betts, Mason Chapman, Rod Torrington and myself. We handled mainly problems associated with the new Lorenz Radio Range.

I was back again in the northern areas in October 1940, where I was on loan to the RAAF to 'indoctrinate' all DCA operators in the mysteries of Defence Services communications procedures. I visited all Aeradio stations from Brisbane north to Cooktown, then west to Karumba and Groote, down to Charleville and Cloncurry, on to Daly Waters and finally south to Alice Springs. I spent about a week in each place, depending on the number of operators there and including the time involved in lectures and exercises.

I never did complete the second half of the project as more important things had come up. I was back in Darwin in January 1941 on my way to Portuguese Timor to install a typical AS9 transmitter and battery operated receiver at Dilli. The station was required there when arrangements were made for Qantas to operate a weekly service by deviating the Darwin/Koepang sector via Dilli; westbound one week, and eastbound the next. The only other radio facility in Dilli had been ship-to-shore, and Qantas operations refused to go in there unless Aeradio communications and a homing beacon were provided. Canberra agreed to this, and DCA provided the equipment free of cost to Qantas.

I left Sydney by Flying Boat on 17 January 1941 after collecting the necessary equipment from Qantas and I over-nighted at Townsville where antenna items came aboard. Arriving at Darwin next afternoon *via* Karumba and Groote, I completed the equipment pickup before departing next morning for Dilli where I was met by the Governor. After three weeks really good radio contact was established with Darwin and with flying boats on departure from Darwin or Koepang."

Ivan continued to work in the Darwin area, installing the Lorenz 33 MHz Radio Range for the purpose of assisting Guinea Airways aircraft into Darwin at night time. He returned south just nine days before the Japanese bombed the town. The Aeradio facility was later relocated at Daly Waters. He finally retired as Examiner of Airmen (Radio) in 1964, and after an active retirement at Myrtleford (Vic), Ivan passed away in 1995. His collection of writings, tape recordings and photos are in the archive of the Civil Aviation Historical Society".

## **5.2 Historic Individuals**

### **Ivan Hodder**

Ivan Hodder (1899-1993) was a radio enthusiast by nature, having learned Morse code as a sixteen year-old, and went on to join the RAAF Wireless Reserve in 1929. His spare time was spent in building and experimenting with radio transmitters which, he later discovered, was in contravention of military intelligence regulations.

In 1938 Mr Wiggins offered Ivan a job as one of four Radio Inspectors, the others being Ted Betts, Fred Stevens and Ken Dalziel. This was prior to the creation of DCA and the small number of CAB staff (about 100) were located at Victoria Barracks in St Kilda Rd, Melbourne.

## **5.3 Creative/Technical Achievement**

The key technical benefits provided by Nhill Airport in its early days related to its climate and terrain and to its location. The climate was dry, the local wheat farmers complained continually about the lack of rain, and the terrain was typical wheat country – flat as a pancake! The aircrew training facility needed these characteristics. Fine weather would yield more hours of good flying time each year and flat terrain was an advantage for novice aircrews. Furthermore it was located away from the coast (there was always concern about bombardment from enemy ships at sea for any installation near the coast) and conveniently half way between Melbourne and Adelaide. Indeed up to 10,000 aircrew were trained at Nhill Base.

## **5.4 Research Potential**

The history of Australia at war (both during the First and Second World Wars and Korea and Vietnam) is mostly characterised by what happened at the Fronts, far away from our shores<sup>4</sup>. The back stories of war such as training, supply, transport, stores, support services and other aspects were often not told and many were not aware of these activities which were on a massive scale.

The training of air crew, as at Nhill, is one of these untold stories not well documented and not well read by generations of Australians. This seems to be the best opportunity for further research.

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<sup>4</sup> Only really at Darwin did the war come to Australian shores. Even then it was an air war. Japanese Bombers were shot down at every opportunity and fighter squadrons were located nearby and were able to rise to attack Japanese aircraft at short notice. Although the early raids on Darwin were massive and did a great deal of damage the Japanese were soon discouraged by their losses to the Kitty Hawks, and later Spitfires, of the RAAF. Even the air war over Darwin became a standoff as Japanese losses mounted and the RAAF acquired better aircraft and battle-hardened pilots with experience from the North Africa campaign.

## **5.5 Social**

Nhill was a small regional town, far from the Big Smoke and the sudden appearance of large numbers of young, boisterous young men (they were mostly men in those days) in the town must have been a shock for many and a great deal of fun for others.

My father was one of a large family of three other boys and two girls. Their parents were shocked by the antics they got up to. All 4 brothers joined the RAAF and one of the girls also joined up. They saw the world and did amazing things but they came back very different people. They were never again much under the thumb of their ultra-strict father.

The Air Base would have made an immense impact, socially, on the Nhill community.

## **5.6 Integrity and Intactness**

The Nhill Airport is remarkably intact considering its different uses (civilian and military) over its eight decades of operation. Certainly many buildings from the War Time Era have gone but much of what remains is from the early days.

The Aeradio Building which was built just before WWII has recently been restored and looks very fine.

The runways seem to have changed little from the WWII Era.

Although relatively intact the site is much quieter than during the WWII period. I was on site for about 2 hours and there was no aircraft movement during that time. There was a sense that very little had changed since WWII, apart from the lower tempo. The only aircraft I saw were the two restored aircraft in the museum – both of WWII vintage. Other aircraft may have been locked up in the hangar.

## **5.7 Statement of Significance**

Nhill Airport appears to be an excellent representation of a late 1930s regional airfield which was soon overtaken by the massive build-up of World War II but then slipped back into a more relaxed era post war.

I vividly remember flying from Nhill to Melbourne in a Douglas DC3 in the late forties. The DC3 was a very relaxed aircraft – never seemed to be in a hurry – and the whole business of airline operations in that era was relaxed and comfortable. Children always spent time in the cockpit, the aircraft was loaded in a casual manner with people wandering from the terminal to the aircraft and often walking around it before boarding.

The Aeradio installation at Nhill was one of a national network of civil aviation radio network assets and is now the most complete remaining such facility in the country.



The small but growing collection of historic aircraft at the Nhill Aviation Museum adds a greater degree of authenticity to an airport, built just in time for World War II and which served with distinction as a training facility during that war.

### **5.8 What is significant?**

The Aeradio installation is the most significant part of the site nationally as it is the most complete of the 11 Aeradio installations built around Australia.

Nhill Air Base was a significant large air crew training facility during WWII for the RAAF.

There are remnants of the much larger facility which was on the site during WWII on the site.

### **5.9 How is it significant?**

- **CRITERION A: Importance to the course, or pattern, of Victoria's cultural history.**

The development of air services to larger country towns during the late 1930s and then again after WWII was important to Victoria's cultural history. Nhill was an important air crew training facility during WWII.

- **CRITERION B: Possession of uncommon, rare or endangered aspects of Victoria's cultural history.**

The remnants of the Aeradio installation is important as the Nhill facility is the most complete Aeradio site remaining.

- **CRITERION C: Potential to yield information that will contribute to an understanding of Victoria's cultural history.**

The training of air crew, as at Nhill, is one of these untold stories not well documented and not well read by generations of Australians. This can contribute to increasing the knowledge in this area.

- **CRITERION D: Importance in demonstrating the principal characteristics of a class of cultural places and objects.**

Nothing of significance under this criterion.

- **CRITERION E: Importance in exhibiting good design or aesthetic characteristics and/or in exhibiting a richness, diversity or unusual integration of features.**

Nothing of significance under this criterion.

- **CRITERION F: Importance in demonstrating a high degree of creative or technical achievement at a particular period.**

The large scale training of air crew comes into this criterion and is worthy of further development.

### **5.10 Area of Significance**

The large scale air crew training conducted at Nhill was of importance to the local community at the time and has continued to be a source of pride ever since.

The function of Nhill Air Base during WWII was also significant as part of the 'war effort'.

## 6.0 INTERPRETATION PLAN

### 6.1 General Approach

All parts of the Nhill Airport are well interpreted at present. Hence interpretation by EHA should be limited to a 300 mm round marker mounted in a suitable place.

The nomination will cover both the airport/Air Base facilities and the Aeradio facilities. These facilities are widely separated being on opposite sides of the airfield. The options are therefore:

- OPTION 1 Place a marker at the airport terminal and one at the Aeradio Building
- OPTION 2 Place a marker only at the Aeradio facility as this is arguably the most important facility on the site to be recognised.

OPTION 1 is preferred.

At both sites the marker could be wall mounted.



Veranda of Aeradio Building where marker plate could be wall mounted.

Image: Owen Peake

## **7.0 REFERENCES**

7.1. NHL – Nhill (PDF). AIP En Route Supplement from *Airservices Australia*, effective 28 February 2019

7.2 Dunn, Peter. USAAF Camp at Nhill Airfield, Nhill, Vic during WWII

7.3 Kevin O'Reilly, In Just Five Years – The RAAF & Nhill in World War II 1941-1946

## APPENDIX 1 – IMAGES AND CAPTIONS



Lorenz Beacon on tower, Nhill.  
Image: Nhill Aviation Heritage Centre.



First aircraft to land at Nhill. Landing at the racecourse, 7 November 1919.



The aircraft is a de Havilland DH-6, 100 hp piloted by Captain McKenzie accompanied by Mr Livingstone from Japarit.  
Image: Collections Victoria.



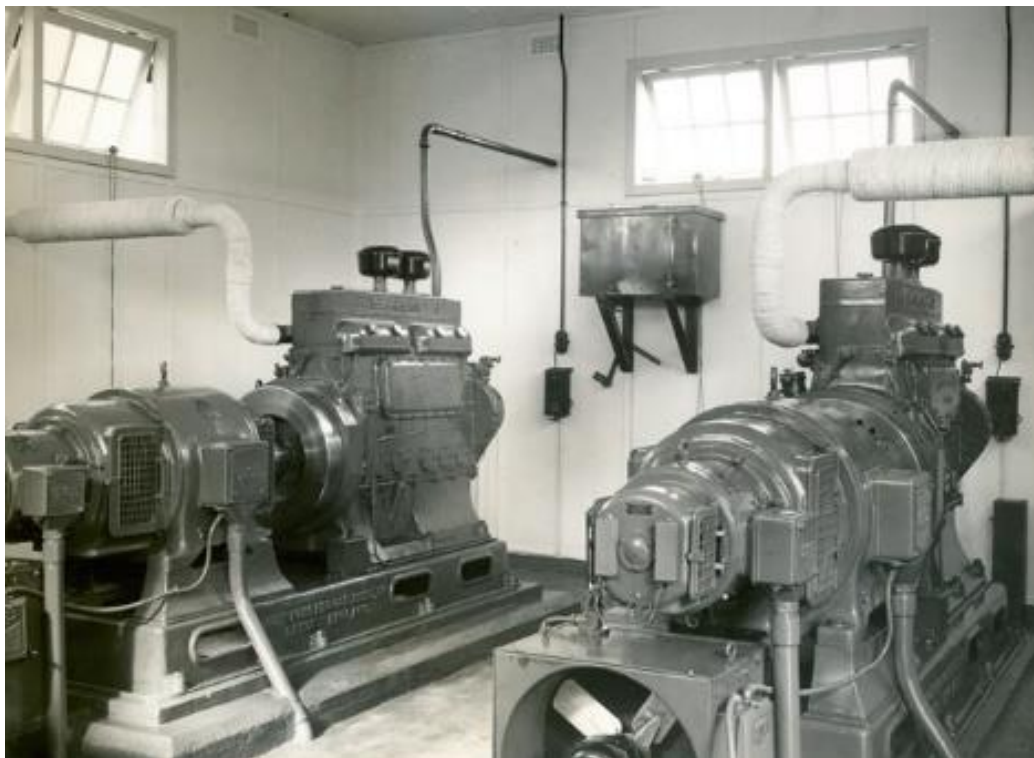
Aeradio Diorama. Civil Aviation Museum, Essendon.  
Image: Civil Aviation Historical Society.



Aeradio Operators Station.  
Image: Nhill Aviation Historical Centre.



**Standard Aeradio Transmitter.**  
Image: Civil Aviation Historical Society.



**Standard Aeradio emergency generator installation.**  
Image: Civil Aviation Historical Society.



**Buildings at Nhill Air Base during WWII, probably 1940.  
Image: ABC**



**Lockheed Neptune anti-submarine aircraft at Nhill in 1953. The aircraft diverted to Nhill with engine trouble. Image: R Letch.**



## APPENDIX 2 RESTORED WIRRAWAY AT NHILL

# Restored Wirraway plane flies home to Nhill thanks to generosity of small town

**ABC Wimmera**

By Jessica Black

Updated 29 Apr 2018, 11:14pm



**PHOTO:** [Aircraft engineer Borg Sorensen spent 18 years reconstructing the Wirraway aircraft.](#) (ABC Western Vic: Jessica Black)

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**RELATED STORY:** [Collection of WWI aircraft gives rare glimpse into Australia's aviation history](#)

**One of the world's rarest planes has made its final flight, touching down in a western Victorian town that fundraised for two years to bring it home.**

The Australian-made Wirraway was used to train pilots at the Nhill airbase during World War II.

At its peak, there were as many Royal Australian Air Force personnel at the airbase as the population of Nhill.

Today the population of Nhill, which is halfway between Melbourne and Adelaide, is about the same at just 2,000.

The plane is made up of parts from countless discarded Wirraways, and is among the best preserved in the world.

Aircraft engineer Borg Sorensen spent 10 years scouring the country for the parts, and another eight putting the pieces back together.

He found his first Wirraway in Horsham, an hour from Nhill, hacked apart with an axe and spread over five paddocks.





PHOTO: [The Wirraway is welcomed by a large crowd at the Nhill Aerodrome.](#) (ABC TV)

## Community funding brings plane home

On Saturday Mr Sorensen flew the historic aircraft for the last time, from Frankston to the Nhill Aerodrome.

"It was the first production-built aeroplane in Australia," Mr Sorensen said.

"I wanted it preserved. I built it to preserve a Wirraway because there are not many left."



**PHOTO:** [The Wirraway was used to train Royal Australian Air Force pilots at the Nhill airbase during World War II.](#) (Supplied: Nhill Aviation Heritage Centre)

The community met its \$300,000 fundraising target just hours before the plane touched down.

Nhill Aviation Heritage Centre president Rob Lynch said the support for the project had been unprecedented.

The project is entirely community funded.

Weeks out from the landing an anonymous donation of \$15,000 was received.

It is hoped having the aircraft at the base will help commemorate the men who trained at Nhill and died at war.

"Two years ago this seemed like a pie in the sky. We didn't think we'd be able to do it, but this is a culmination of the generosity of the people of Nhill," Mr Lynch said.



**PHOTO:** [Construction underway at the Royal Australian Air Force Base at Nhill in 1941.](#) (Supplied: Nhill Aviation Heritage Centre)

Mr Sorensen could have sold his Wirraway for almost twice as much on the international market, but he knew it belonged at Nhill.

"We'd been flying it for 16 years, my son and I, and we started going round doing airshows and then all of a sudden I thought 'That's really not what I built it for'," he said.

"My reason for building it was to preserve it and when they put it to me, would I consider selling it, I thought 'Yes, that will just suit me fine'."



PHOTO: [Max Carland flew Wirraways during his training in the air force.](#) (ABC Western Vic: Jessica Black)

## 'Amazing to see the thing still working'

Max Carland flew fighter planes in New Guinea in World War II and came of fighting age with the Nhill airbase on his doorstep.

"Most of the people at Nhill joined the air force because there was an air force stationed here," he said.

"Having flown the Wirraway during my training days, it's amazing to see the thing still working."

YOUTUBE: [Nhill Aviation Heritage Centre working to bring the Wirraway home](#)

But the Wirraway was not without its faults.

"It had a nasty habit of dropping a wing, which is a bit dangerous when down low, but you had to learn how to cope with that," Mr Carland said.

"Another thing it used to do that we didn't like very much was it used to, on starting, sometimes the engine would catch alight, so every time we started a Wirraway engine, we had to have a big fire extinguisher."

Merv Schneider was a radio navigator and trained at the Nhill airbase before he was old enough to serve.

"Our fighter pilots were Wirraway-trained. Being built in Australia, the opportunity of one coming home to Nhill really brings home the significance of the Wirraway."

**Topics:** [world-war-2](#), [air-force](#), [defence-forces](#), [history](#), [nhill-3418](#)

First posted 29 Apr 2018, 2:11pm



## APPENDIX 3 RESTORING AVRO ANSON W2364

### 2019 UPDATE<sup>5</sup>

At six monthly intervals since January 2018, I have dropped by to visit the Nhill Aviation Heritage Centre (NAHC) in the small Wimmera town of Nhill, Victoria and check up their grass-roots, community based restoration of an Royal Australian Air Force (RAAF) 1941 Avro Anson Mk.I (Serial Number W2364) and a pair of RAAF Link Trainers (A13-54 and A13-60) – a World War Two era flight instrument and flight training simulator.

Restoration progress has been steady and very noticeable between January 2018 and January 2019. The key focus for the Anson has been the starboard wing but many internal fittings and the like have been added and on (sic).



**Nhill Aviation Heritage Centre Avro Anson. Restoration as at January 2019.**

**Image: Nhill Aviation Heritage Centre.**

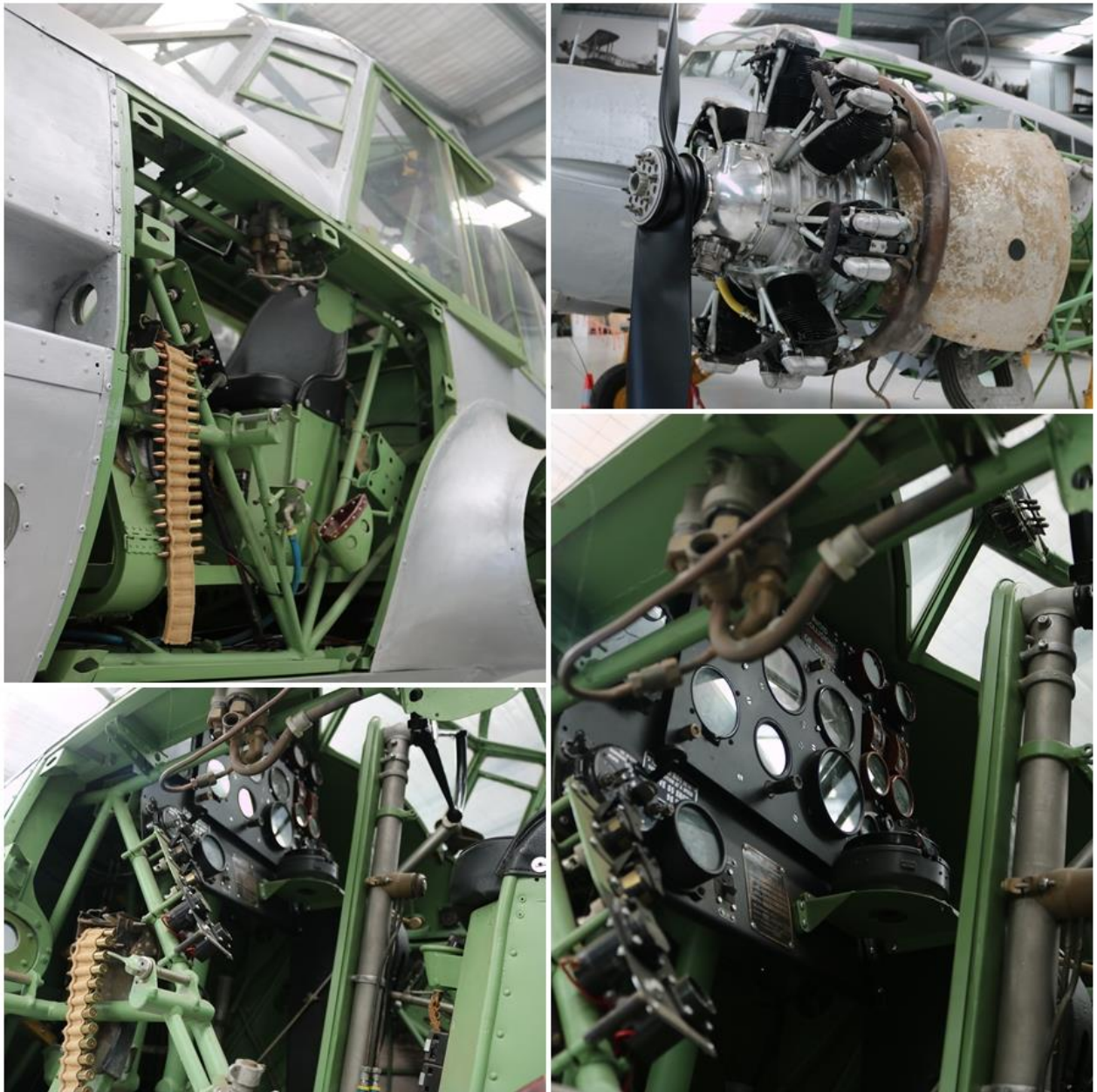
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<sup>5</sup> Written for Acces High by Deano, [deanoinamerica.wordpress.com](http://deanoinamerica.wordpress.com)





**Avro Anson at Nhill January 2019. Three views of the aircraft.  
Image: Nhill Aviation Heritage Centre.**



**Avro Anson at Nhill January 2019. Four views of the aircraft. Top right is one of the Armstrong Siddeley Cheetah Mark IX seven cylinder radial engines.**

**Image: Nhill Aviation Heritage Centre.**

Further information on the Armstrong Siddeley Cheetah Mk IX engine:

- Engine Capacity: 13.65 litres
- Engine weight: 289 kg
- Engine diameter: 1210 mm
- Engine power: 340 horsepower takeoff power

- Engine power: 310 horsepower rated power at 2100 revs/minute at 6000 feet
- Engine power: 350 horsepower maximum level flight power at 2425 revs/minute at 7300 feet.

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#### CHANGE CONTROL

VERSION 1	22 JULY 2019	FROM NOMINATION FOR KIEWA HYDRO	
VERSION 2	30 JULY 2019	FURTHER DRAFTING	
VERSION 3	31 JULY 2019	FURTHER DRAFTING	2500 WORDS
VERSION 4	2 AUGUST 2019	FURTHER DRAFTING	5657 WORDS
VERSION 5	7 AUGUST 2019	PROOF READING & ADDITIONAL IMAGES	5859 WORDS
VERSION 6	16 AUGUST 2019	ADDED APPENDIX 2 AND 3	6184 WORDS
VERSION 7	17 OCTOBER 2019	ADDED TO CAPTIONS ON PAGES 4 & 5	6255 WORDS